

REMARKS/ARGUMENTS

Claims 43-60 are pending in this application. By this Amendment, Applicant cancels Claims 22-42 and adds new claims 43-60.

Claims 22, 23, 28, 29, 31-33, 38, 39, 41, and 42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saruhashi et al. (U.S. 2004/0205818) in view of Sukegawa et al. (U.S. 2003/0039380). Claims 24, 25, 34, and 35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saruhashi et al. in view Sukegawa et al., and further in view of Hong et al. (U.S. 2005/0033573). Claims 26 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saruhashi et al. in view Sukegawa et al. and Hong et al., and further in view of Ohmae et al. (WO 00/59226). Claims 27 and 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saruhashi et al. in view Sukegawa et al. and Hong et al., and further in view of Yuen et al. (U.S. 2003/0009339). Claims 30 and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saruhashi et al. in view Sukegawa et al., and further in view of Jung et al. (WO 02/103597). Claims 22-42 have been canceled.

New Claim 43 recites:

A remote education system that enables education over distances using multimedia bi-directional communication, including audio and video, comprising:

student audio-video acquisition means for acquiring audio and video of a student who is attending a remote education program via a student terminal;

facial image matching means for matching the video acquired by the student audio-video acquisition means with a pre-registered facial image of the student;

action request means for sending a message to the student terminal for requesting an audio response to a certain question;

audio response detection means for detecting an audio response of the student from the audio that is currently being acquired by the student audio-video acquisition means within a predetermined time after sending the message by the action request means, and confirming that the detected audio response of the student corresponds to the requested audio response of the student; and

mouth movement detection means for detecting mouth movement of the student from the acquired video while the audio response is being detected by the audio response detection means, and confirming that the detected mouth movement of the student corresponds to the audio response of the student detected by the audio response detection means. (emphasis added)

Applicant's Claim 51 recites features and method steps that are similar to the features recited in Applicant's Claim 43.

Applicant respectfully submits that all of the features and method steps recited in new Claims 43 and 51 are supported in the originally filed application. Particularly, the student audio-video acquisition means is described on lines 3-8 of page 36 and Fig. 3, S108; the action request means is described in lines 20-25 of page 38, Fig. 4, S200, lines 2-10 of page 42, and Fig. 5, S300; the audio response detection means is described in line 25 of page 38 to line 25 of page 39, Fig. 4, S202 to S216, line 10 of page 42 to line 1 of page 43, and Fig. 5, S302 to S316; and the mouth movement detection means is described in line 25 of page 39 to line 1 of page 42, Fig. 4, S218 to S220, line 1 of page 43 to line 15 of page 44, and Fig. 5, S318 to S320.

With respect to canceled Claims 22 and 24, which recited the feature of "a function for detecting movement of the mouth of the student accompanying the audio response by the student", the Examiner alleged that Saruhashi et al. teaches "a means for asking the student a question and requesting an audio response and a means for acquiring audio of the student (Para.0069, lines 3-17 and Para.0072, lines 1-6);" that Sukegawa et al. teaches "facial image matching means for matching the video acquired by the student video acquisition means with a pre-registered facial image of the student (Para.0156 and 0157), a means for requesting the student to perform an action to change an appearance of the body of the student (Para.0254 and 0255), and a detection means for detecting image changes of the student corresponding to the action requested based on the video of the student acquired by the student video acquisition means (Para.0252 and FIG.51, label 107);" that Sukegawa et al. further teaches "a

means for detecting movement of the mouth of the student (Para.0187, Para.0192 and FIG.21);” and Hong et al. teaches “a detection means including a means for recognizing the audio response from the acquired audio (Para.0007) and a means for determining the validity of the audio response of the student (Para.0009 and Para.0010).”

However, Saruhashi et al (Para.0069, lines 3-17 and Para.0072, lines 1-6) merely discloses a means for acquiring a video from a TV camera and an audio from a microphone for bidirectional communication between the student terminals and the instructor terminal; Sukegawa et al. (Para.0187, Para.0192 and FIG.21) merely discloses a face detector for detecting relative positions of a face and face parts including the mouth in order to detect a face movement in response to a request action; and Hong merely discloses a voice registration method and a voice recognition method.

The only cited prior art reference which teaches anything at all about detecting movement of a mouth is Sukegawa et al. Neither Sukegawa et al. nor any of the other cited prior art references teach or suggest any relationship or interaction whatsoever between the detected movement of a mouth and an audio response of a student. Thus, the cited prior art references certainly fail to teach or suggest the features of “mouth movement detection means for detecting mouth movement of the student from the acquired video while the audio response is being detected by the audio response detection means, and confirming that the detected mouth movement of the student corresponds to the audio response of the student detected by the audio response detection means” as recited in Applicant’s Claim 43, and similarly in Applicant’s Claim 51.

New Claim 49 recites:

A remote education system that enables education over distances using multimedia bi-directional communication, including audio and video, comprising:

student video acquisition means for acquiring video of a student via a student terminal;

facial image matching means for matching the video acquired by the student video acquisition means with a pre-registered facial image of the student;

action request means for sending a message to the student terminal for requesting the student to change the position of the face to a randomly selected position; and

facial position detection means for detecting the position of the face continuously from the video that is currently being acquired by the student video acquisition means, and confirming that the detected position of the face does not change in a discontinuous manner and moves to the corresponding position requested by the action request means within a predetermined time after sending the message by the action request means. (emphasis added)

Applicant's Claim 58 recites features and method steps that are similar to the features recited in Applicant's Claim 49.

Applicant respectfully submits that all of the features recited in Claims 49 and 58 are supported by the originally filed application. Particularly, the action request means is based on the description in page 37, line 23 to page 38, line 6 and Fig. 3, S124; and the facial position detection means is based on the description in page 38, lines 7-19, page 46, lines 2-12 and Fig. 3, S126 to S130.

With respect to canceled Claim 28, which recited the feature of "a function for determining that the facial image of the student does not move in a discontinuous manner," the Examiner alleged Sukegawa et al. teaches "action detection means including a means for determining that the facial image of the student does not move in a discontinuous manner (Para. 0019, lines 12-16)."

However, contrary to the Examiner's allegations, paragraph [0019] of Sukegawa et al. merely discloses a determination unit which continuously inputs an image by the image input unit and determines whether a person to be authenticated exists on the basis of a change with time in the region of the face detected by the face detector.

Neither Sukegawa et al. nor any of the other cited prior art references teach or suggest anything at all about discontinuous face changes which would be caused by

switching of a video to a prerecorded video. Thus, the cited prior art references certainly fail to teach or suggest the features of “facial position detection means for detecting the position of the face continuously from the video that is currently being acquired by the student video acquisition means, and confirming that the detected position of the face does not change in a discontinuous manner and moves to the corresponding position requested by the action request means within a predetermined time after sending the message by the action request means” as recited in Applicant’s Claim 49, and similarly in Applicant’s Claim 58.

Accordingly, Applicant respectfully submits that none of the cited prior art references teaches or suggests the unique combination and arrangement of features and/or method steps recited in Applicant’s Claims 43, 49, 51, and 58

In view of the foregoing amendments and remarks, Applicant respectfully submits that Claim 43, 49, 51, and 58 are allowable. Claims 44-48, 50, 52-57, 59, and 60 depend upon Claims 43, 49, 51, and 58, and are therefore allowable for at least the reasons that Claims 43, 49, 51, and 58 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a One-Month Extension of Time, extending to February 12, 2008, the period for response to the Office Action dated October 12, 2007.

Application No. 10/528,641
February 11, 2008
Reply to the Office Action dated October 12, 2007
Page 15 of 15

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Dated: February 11, 2008

/Christopher A. Bennett, #46,710/
Attorneys for Applicant

KEATING & BENNETT, LLP
8180 Greensboro Drive, Suite 850
Tyson's Corner, VA 22102
Telephone: (703) 637-1480
Facsimile: (703) 637-1499

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710